

SEQUENCE LISTING

<110> Busfield et al.

<120> GLYCOPROTEIN VI AND USES THEREOF

<130> 7853-234

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<151> 2000-06-30<150> 09/503,387
<151> 2000-02-14<150> 09/454,824
<151> 1999-12-06<150> 09/345,468
<151> 1999-06-30

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<170> FastSEQ for Windows Version 3.0

<210> 1
<211> 2047
<212> DNA
<213> Homo sapiens

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	gagaaca					2047

<210> 2
 <211> 1017
 <212> DNA
 <213> Homo sapiens

<400> 2						
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<210> 3
 <211> 339
 <212> PRT
 <213> Homo sapiens

<400> 3						
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Arg Val Pro Ala Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala						
20	25	30				
Leu Pro Ser Ser Leu Val Pro Leu Glu Lys Pro Val Thr Leu Arg Cys						
35	40	45				
Gln Gly Pro Pro Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser						
50	55	60				
Ser Arg Tyr Gln Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys Arg						
65	70	75	80			
Ser Leu Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp						
85	90	95				
Ser Leu Pro Ser Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala						
100	105	110				
Lys Pro Ser Leu Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly						
115	120	125				

Asp Val Thr Leu Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala
 130 135 140
 Leu Tyr Lys Glu Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp
 145 150 155 160
 Tyr Arg Ala Ser Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly
 165 170 175
 Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser
 180 185 190
 Ala Pro Ser Asp Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr
 195 200 205
 Pro Ser Arg Leu Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser
 210 215 220
 Glu Ala Thr Ala Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr
 225 230 235 240
 Thr Glu Thr Ser Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser
 245 250 255
 Pro Ala Gly Pro Ala Arg Gln Tyr Tyr Lys Gly Asn Leu Val Arg
 260 265 270
 Ile Cys Leu Gly Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala
 275 280 285
 Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala
 290 295 300
 Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys
 305 310 315 320
 Ser His Gly Gly Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly
 325 330 335
 Leu Cys Ser

<210> 4
 <211> 20
 <212> PRT
 <213> Homo sapiens

<400> 4
 Met Ser Pro Ser Pro Thr Ala Leu Phe Cys Leu Gly Leu Cys Leu Gly
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 Arg Val Pro Ala
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<210> 5
 <211> 319
 <212> PRT
 <213> Homo sapiens

<400> 5
 Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala Leu Pro Ser Ser
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 Leu Val Pro Leu Glu Lys Pro Val Thr Leu Arg Cys Gln Gly Pro Pro
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 Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser Ser Arg Tyr Gln
 35 40 45
 Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys Arg Ser Leu Ala Gly
 50 55 60
 Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp Ser Leu Pro Ser
 65 70 75 80
 Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala Lys Pro Ser Leu
 85 90 95

Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly Asp Val Thr Leu
 100 105 110
 Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala Leu Tyr Lys Glu
 115 120 125
 Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp Tyr Arg Ala Ser
 130 135 140
 Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
 145 150 155 160
 Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser Ala Pro Ser Asp
 165 170 175
 Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr Pro Ser Arg Leu
 180 185 190
 Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser Glu Ala Thr Ala
 195 200 205
 Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr Thr Glu Thr Ser
 210 215 220
 Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser Pro Ala Gly Pro
 225 230 235 240
 Ala Arg Gln Tyr Tyr Thr Lys Gly Asn Leu Val Arg Ile Cys Leu Gly
 245 250 255
 Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala Glu Asp Trp His
 260 265 270
 Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala Val Gln Arg Pro
 275 280 285
 Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys Ser His Gly Gly
 290 295 300
 Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly Leu Cys Ser
 305 310 315

<210> 6
 <211> 41
 <212> PRT
 <213> Homo sapiens

<400> 6
 Cys Gln Gly Pro Pro Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser
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 Arg Ser Leu Ala Gly Arg Tyr Arg Cys
 35 40

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 <212> PRT
 <213> Homo sapiens

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 Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala Leu Tyr Lys Glu Gly
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 Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
 35 40 45

<210> 8
 <211> 19
 <212> PRT

<213> Homo sapiens

<400> 8

Leu Val Arg Ile Cys Leu Gly Ala Val Ile Leu Ile Ile Leu Ala Gly
1 5 10 15
Phe Leu Ala

<210> 9

<211> 249

<212> PRT

<213> Homo sapiens

<400> 9

Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala Leu Pro Ser Ser
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Leu Val Pro Leu Glu Lys Pro Val Thr Leu Arg Cys Gln Gly Pro Pro
20 25 30
Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser Ser Arg Tyr Gln
35 40 45
Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys Arg Ser Leu Ala Gly
50 55 60
Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp Ser Leu Pro Ser
65 70 75 80
Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala Lys Pro Ser Leu
85 90 95
Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly Asp Val Thr Leu
100 105 110
Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala Leu Tyr Lys Glu
115 120 125
Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp Tyr Arg Ala Ser
130 135 140
Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
145 150 155 160
Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser Ala Pro Ser Asp
165 170 175
Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr Pro Ser Arg Leu
180 185 190
Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser Glu Ala Thr Ala
195 200 205
Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr Thr Glu Thr Ser
210 215 220
Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser Pro Ala Gly Pro
225 230 235 240
Ala Arg Gln Tyr Tyr Thr Lys Gly Asn
245

<210> 10

<211> 51

<212> PRT

<213> Homo sapiens

<400> 10

Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala
1 5 10 15
Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys
20 25 30

Ser His Gly Gly Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly

35

40

45

Leu Cys Ser

50

<210> 11

<211> 2170

<212> DNA

<213> Homo sapiens

<400> 11

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<210> 12

<211> 631

<212> PRT

<213> Homo sapiens

<400> 12

Met Thr Pro Ala Leu Thr Ala Leu Leu Cys Leu Gly Leu Ser Leu Gly

1

5

10

15

Pro Arg Thr Arg Val Gln Ala Gly Pro Phe Pro Lys Pro Thr Leu Trp
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 Ala Glu Pro Gly Ser Val Ile Ser Trp Gly Ser Pro Val Thr Ile Trp
 35 40 45
 Cys Gln Gly Ser Leu Glu Ala Gln Glu Tyr Arg Leu Asp Lys Glu Gly
 50 55 60
 Ser Pro Glu Pro Leu Asp Arg Asn Asn Pro Leu Glu Pro Lys Asn Lys
 65 70 75 80
 Ala Arg Phe Ser Ile Pro Ser Met Thr Glu His His Ala Gly Arg Tyr
 85 90 95
 Arg Cys His Tyr Tyr Ser Ser Ala Gly Trp Ser Glu Pro Ser Asp Pro
 100 105 110
 Leu Glu Leu Val Met Thr Gly Phe Tyr Asn Lys Pro Thr Leu Ser Ala
 115 120 125
 Leu Pro Ser Pro Val Val Ala Ser Gly Gly Asn Met Thr Leu Arg Cys
 130 135 140
 Gly Ser Gln Lys Gly Tyr His His Phe Val Leu Met Lys Glu Gly Glu
 145 150 155 160
 His Gln Leu Pro Arg Thr Leu Asp Ser Gln Gln Leu His Ser Gly Gly
 165 170 175
 Phe Gln Ala Leu Phe Pro Val Gly Pro Val Asn Pro Ser His Arg Trp
 180 185 190
 Arg Phe Thr Cys Tyr Tyr Tyr Met Asn Thr Pro Gln Val Trp Ser
 195 200 205
 His Pro Ser Asp Pro Leu Glu Ile Leu Pro Ser Gly Val Ser Arg Lys
 210 215 220
 Pro Ser Leu Leu Thr Leu Gln Gly Pro Val Leu Ala Pro Gly Gln Ser
 225 230 235 240
 Leu Thr Leu Gln Cys Gly Ser Asp Val Gly Tyr Asp Arg Phe Val Leu
 245 250 255
 Tyr Lys Glu Gly Glu Arg Asp Phe Leu Gln Arg Pro Gly Gln Gln Pro
 260 265 270
 Gln Ala Gly Leu Ser Gln Ala Asn Phe Thr Leu Gly Pro Val Ser Pro
 275 280 285
 Ser His Gly Gly Gln Tyr Arg Cys Tyr Gly Ala His Asn Leu Ser Ser
 290 295 300
 Glu Trp Ser Ala Pro Ser Asp Pro Leu Asn Ile Leu Met Ala Gly Gln
 305 310 315 320
 Ile Tyr Asp Thr Val Ser Leu Ser Ala Gln Pro Gly Pro Thr Val Ala
 325 330 335
 Ser Gly Glu Asn Val Thr Leu Leu Cys Gln Ser Trp Trp Gln Phe Asp
 340 345 350
 Thr Phe Leu Leu Thr Lys Glu Gly Ala Ala His Pro Pro Leu Arg Leu
 355 360 365
 Arg Ser Met Tyr Gly Ala His Lys Tyr Gln Ala Glu Phe Pro Met Ser
 370 375 380
 Pro Val Thr Ser Ala His Ala Gly Thr Tyr Arg Cys Tyr Gly Ser Tyr
 385 390 395 400
 Ser Ser Asn Pro His Leu Leu Ser Phe Pro Ser Glu Pro Leu Glu Leu
 405 410 415
 Met Val Ser Gly His Ser Gly Gly Ser Ser Leu Pro Pro Thr Gly Pro
 420 425 430
 Pro Ser Thr Pro Gly Leu Glu Arg Tyr Leu Glu Val Leu Ile Gly Val
 435 440 445
 Ser Val Ala Phe Val Leu Leu Leu Phe Leu Leu Leu Phe Leu Leu Leu
 450 455 460
 Arg Arg Gln Arg His Ser Lys His Arg Thr Ser Asp Gln Arg Lys Thr
 465 470 475 480

Asp Phe Gln Arg Pro Ala Gly Ala Ala Glu Thr Glu Pro Lys Asp Arg
 485 490 495
 Gly Leu Leu Arg Arg Ser Ser Pro Ala Ala Asp Val Gln Glu Glu Asn
 500 505 510
 Leu Tyr Ala Ala Val Lys Asp Thr Gln Ser Glu Asp Arg Val Glu Leu
 515 520 525
 Asp Ser Gln Ser Pro His Asp Glu Asp Pro Gln Ala Val Thr Tyr Ala
 530 535 540
 Pro Val Lys His Ser Ser Pro Arg Arg Glu Met Ala Ser Pro Pro Ser
 545 550 555 560
 Ser Leu Ser Gly Glu Phe Leu Asp Thr Lys Asp Arg Gln Val Glu Glu
 565 570 575
 Asp Arg Gln Met Asp Thr Glu Ala Ala Ser Glu Ala Ser Gln Asp
 580 585 590
 Val Thr Tyr Ala Gln Leu His Ser Leu Thr Leu Arg Arg Lys Ala Thr
 595 600 605
 Glu Pro Pro Pro Ser Gln Glu Gly Glu Pro Pro Ala Glu Pro Ser Ile
 610 615 620
 Tyr Ala Thr Leu Ala Ile His
 625 630

<210> 13
 <211> 50
 <212> PRT
 <213> Homo sapiens

<400> 13
 Gly Gln Ser Val Ile Leu Arg Cys Gln Gly Pro Pro Asp Val Asp Leu
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 Tyr Arg Leu Glu Lys Leu Lys Pro Glu Lys Tyr Glu Asp Gln Asp Phe
 20 25 30
 Leu Phe Ile Pro Thr Met Glu Arg Ser Asn Ala Gly Arg Tyr Arg Cys
 35 40 45
 Ser Tyr
 50

<210> 14
 <211> 1163
 <212> DNA
 <213> Mus musculus

<400> 14
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 aaacacagag tgccccactc cccaaggcctt ccctccaggg tcagccccagt tccctggtag 180
 ccctgggtca gtcagttatt ctgagggtgcc agggacctcc agatgtggat ttatatcgcc 240
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 aaagaagtaa tgctggacgg tatcgatgtc cttatcagaa tgggagtcac tggtctctcc 360
 caagtgacca gcttgagcta attgctacag gtgtgtatgc taaaacctca ctctcagctc 420
 atcccgatcc agcagtccct caaggcagggg atgtgactct gaagtgccag agcccataca 480
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 ttttgggg gcttcttagca gaggattggc acagtcggaa gaaatgcctg caacacagga 960

tgagagctt gcaaaggcca ctaccacccc tcccactggc ctagaaataa cttggcttc	1020
agcagagggg ttgaccagac atccatgcac aaccatggac atcaccacta gagccacaga	1080
catggacata ctcaagagtg gggaggttat ataaaaaaaat gagtgtggag aataaatgca	1140
gagccaacaa ggtgaaaaaaaaaaa aaa	1163

<210> 15
 <211> 939
 <212> DNA
 <213> Mus musculus

<400> 15	
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ctgggtcagt cagttattct gaggtgccag ggacctccag atgtggattt atatcgctcg	180
gagaaaactga aaccggagaa gtatgaagat caagactttc tcttcattcc aaccatggaa	240
agaagtaatg ctggacggta tcgatgctct tatcagaatg ggagtcactg gtctctccca	300
agtgaccagc ttgagcta at tgctacaggt gtgtatgcta aaccctca actcagctcat	360
cccagctcag cagtcctca aggccaggat gtgactctga agtgcagag cccatacagt	420
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cttgggta ctggactctc tgccactccc agccaggtac ccacggaaga atcatttct	660
gtgacagaat cttccaggag accttccatc ttacccacaa aaaaaatatc tacaactgaa	720
aaggctatga atatcactgc ctctccagag gggctgagcc ctccaattgg ttttgctcat	780
cagcactatg ccaaggggaa tctggtccgg atatgccttg gtgcacgat tataataatt	840
ttgttggggc ttctagcaga ggattggcac agtcggaaga aatgcctgca acacaggatg	900
agagcttgc aaaggccact accacccctc ccactggcc	939

<210> 16
 <211> 313
 <212> PRT
 <213> Mus musculus

<400> 16	
Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu	
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Gln Val Ile Gln Thr Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln	
20 25 30	
Ala Gln Pro Ser Ser Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg	
35 40 45	
Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys	
50 55 60	
Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu	
65 70 75 80	
Arg Ser Asn Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His	
85 90 95	
Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr	
100 105 110	
Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly	
115 120 125	
Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe	
130 135 140	
Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys	
145 150 155 160	
Trp Tyr Arg Ala Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser	
165 170 175	
Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Pro Tyr Leu Trp	
180 185 190	

Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala
 195 200 205
 Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser
 210 215 220
 Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu
 225 230 235 240
 Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile
 245 250 255
 Gly Phe Ala His Gln His Tyr Ala Lys Gly Asn Leu Val Arg Ile Cys
 260 265 270
 Leu Gly Ala Thr Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp
 275 280 285
 Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln
 290 295 300
 Arg Pro Leu Pro Pro Leu Pro Leu Ala
 305 310

<210> 17
 <211> 21
 <212> PRT
 <213> Mus musculus

<400> 17
 Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu
 1 5 10 15
 Gln Val Ile Gln Thr
 20

<210> 18
 <211> 292
 <212> PRT
 <213> Mus musculus

<400> 18
 Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala Gln Pro Ser Ser
 1 5 10 15
 Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg Cys Gln Gly Pro Pro
 20 25 30
 Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys Pro Glu Lys Tyr Glu
 35 40 45
 Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu Arg Ser Asn Ala Gly
 50 55 60
 Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His Trp Ser Leu Pro Ser
 65 70 75 80
 Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr Ala Lys Pro Ser Leu
 85 90 95
 Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly Arg Asp Val Thr Leu
 100 105 110
 Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe Val Leu Tyr Lys Glu
 115 120 125
 Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys Trp Tyr Arg Ala Asn
 130 135 140
 Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
 145 150 155 160
 Tyr Ser Phe Ser Ser Ser Pro Tyr Leu Trp Ser Ala Pro Ser Asp
 165 170 175
 Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala Thr Pro Ser Gln Val
 180 185 190

Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser Ser Arg Arg Pro Ser
 195 200 205
 Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu Lys Pro Met Asn Ile
 210 215 220
 Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile Gly Phe Ala His Gln
 225 230 235 240
 His Tyr Ala Lys Gly Asn Leu Val Arg Ile Cys Leu Gly Ala Thr Ile
 245 250 255
 Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp Trp His Ser Arg Lys
 260 265 270
 Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln Arg Pro Leu Pro Pro
 275 280 285
 Leu Pro Leu Ala
 290

<210> 19
 <211> 267
 <212> PRT
 <213> Mus musculus

<400> 19
 Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu
 1 5 10 15
 Gln Val Ile Gln Thr Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln
 20 25 30
 Ala Gln Pro Ser Ser Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg
 35 40 45
 Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys
 50 55 60
 Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu
 65 70 75 80
 Arg Ser Asn Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His
 85 90 95
 Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr
 100 105 110
 Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly
 115 120 125
 Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe
 130 135 140
 Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys
 145 150 155 160
 Trp Tyr Arg Ala Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser
 165 170 175
 Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Pro Tyr Leu Trp
 180 185 190
 Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala
 195 200 205
 Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser
 210 215 220
 Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu
 225 230 235 240
 Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile
 245 250 255
 Gly Phe Ala His Gln His Tyr Ala Lys Gly Asn
 260 265

<210> 20
 <211> 19

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<212> PRT
<213> Mus musculus

<400> 20
Leu Val Arg Ile Cys Leu Gly Ala Thr Ile Ile Ile Ile Leu Leu Gly
1 5 10 15
Leu Leu Ala

<210> 21
<211> 27
<212> PRT
<213> Mus musculus

<400> 21
Glu Asp Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala
1 5 10 15
Leu Gln Arg Pro Leu Pro Pro Leu Pro Leu Ala
20 25

<210> 22
<211> 41
<212> PRT
<213> Mus musculus

<400> 22
Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys
1 5 10 15
Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu
20 25 30
Arg Ser Asn Ala Gly Arg Tyr Arg Cys
35 40

<210> 23
<211> 47
<212> PRT
<213> Mus musculus

<400> 23
Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe Val Leu Tyr Lys Glu Gly
1 5 10 15
Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys Trp Tyr Arg Ala Asn Phe
20 25 30
Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
35 40 45

<210> 24
<211> 1896
<212> DNA
<213> Homo sapiens

<400> 24
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gtcaggcag ggccttccc caaacccacc ctctgggctg agccaggctc tgtgatcagc 120
tgggggagcc ccgtgaccat ctgggtgtcag gggagcctgg aggcccagga gtaccgactg 180
gataaaaggagg gaagcccaga gcccttggac agaaataacc cactggaacc caagaacaag 240
gccagattct ccatcccatc catgacagag caccatgcgg ggagataccg ctgccactat 300
tacagctctg caggctggtc agagcccagc gacccctgg agctggtgat gacaggattc 360

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tacaacaaac ccaccctctc agccctgccc agccctgtgg tggcctcagg ggggaatatg	420
accctccat gtggctcaca gaaggatata caccatttt ttctgtatgaa ggaaggagaa	480
caccagctcc cccggaccct ggactcacag cagctccaca gtgggggggtt ccaggccctg	540
ttccctgtgg gccccgtgaa ccccagccat aggtggaggt tcacatgcta ttactattat	600
atgaacaccc cccaggtgtg gtcccacccc agtgacccccc tggagattct gccctcaggc	660
gtgtcttagga agccctccct cctgaccctg cagggccctg tcctggcccc tggcagagc	720
ctgaccctcc agtgtggctc tgatgtcgcc tacgacagat ttgttctgtta taaggagggg	780
gaacgtgact tcctccagcg ccctggccag cagccccagg ctgggctctc ccaggccaac	840
ttcacccctgg gccctgtgag cccctcccac gggggccagt acaggtgcta tggtgcacac	900
aacctctctt ccgagtggtc ggccccccagc gacccctgta acatcctgat ggcaggacag	960
atctatgaca ccgtctccct gtcagcacag cccggggccca cagtggcctc aggagagaac	1020
gtgaccctgc tgtgtcagtc atggtggcag tttgacactt tccttctgac caaagaagg	1080
gcagcccatc cccactgctc tctgagatca atgtacggag ctcataagta ccaggctgaa	1140
ttccccatga gtccctgtgac ctcagccac gcggggaccc acaggtgcta cggctcatac	1200
agctccaacc cccacctgct gtctttcccc agtgagccccc tggaaactcat ggtctcagga	1260
cactctggag gctccagcct cccacccaca gggccgcccc ccacacctgg tctgggaaga	1320
tacctggagg ttttGattgg ggtctcggtg gccttcgttcc tgctgctctt cctccctcctc	1380
ttcctccctc tccgacgtca gcgtcacagc aaacacagga catctgacca gagaaagact	1440
gatttccagc gtccctgcagg ggctgcggag acagagccca aggacagggg cctgctgagg	1500
agggccagcc cagctgctga cgtccagggaa gaaaacctct atgctgccgt gaaggacaca	1560
cagtctgagg acaggggtgga gctggacagt cagagccac acgatgaaga ccccccagca	1620
gtgacgtatg ccccggtgaa acactccagt cctaggagag aaatggcctc tcctccctcc	1680
tcactgtctg gggaaattcct ggacacaaag gacagacagg tggaaagagga cagggcagatg	1740
gacactgagg ctgctgcattc tgaagcctcc caggatgtga cctacgccc gctgcacagc	1800
ttgaccctta gacggaaaggc aactgagcct cctccatccc aggaaggggg acctccagct	1860
gagcccagca tctacgcccac tctggccatc cactag	1896

<210> 25
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> forward primer

<400> 25
 cagcctcacc cacttttttc 20

<210> 26
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> reverse primer

<400> 26
 ccacaaggcac tagagggtca 20

<210> 27
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> sense primer

<400> 27

ttctgtcttg ggctgtgtct g	21
<210> 28	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> anti-sense primer	
<400> 28	
cccgccagga ttattaggat c	21
<210> 29	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
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<223> sense primer	
<400> 29	
cctgaagctg acagcattcg g	21
<210> 30	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
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<223> anti-sense primer	
<400> 30	
ctcctagagc tacctgtgga g	21
<210> 31	
<211> 23	
<212> DNA	
<213> Artificial Sequence	
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<223> forward primer	
<400> 31	
ctgttagctgt tttcagacac acc	23
<210> 32	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> reverse primer	
<400> 32	
ccatcacctc ttctggtta c	21
<210> 33	

<211> 1017
 <212> DNA
 <213> Homo sapiens

<400> 33

atgtctccat ccccgaccgc	cctcttctgt	cttgggctgt	gtctggggcg	tgtgccagcg	60
cagagtggac cgctccccaa	gccctccctc	caggttctgc	ccagctccct	ggtgccccctg	120
gagaagccag tgacctcccg	gtgccaggga	cctccgggccc	tggacctgt	ccgcctggag	180
aagctgagtt ccagcaggta	ccaggatcat	gcagtcctct	tcatcccgcc	catgaagaga	240
agtctggctg gacgctaccg	ctgctcctac	cagaacggaa	gcctctggc	cctgccccagc	300
gaccagctgg agctcggtc	cacggagtt	tttgcacaaac	cctcgctctc	agcccagccc	360
ggccggccgg tgcgtcagg	aggggacgta	accctacagt	gtcagactcg	gtatggctt	420
gaccaattt ctctgtacaa	ggaaggggac	cctgcgcctt	acaagaatcc	cgagagatgg	480
tacgggcta gttccccat	catcacggtg	accgcgcccc	acagcggAAC	ctaccgatgc	540
tacagcttcc	ccagcaggga	cccatacctg	ttgtcgcccc	ccagcggaccc	600
gtggtcacag gaacctctgt	gaccccccagc	cggttaccaa	cagaaccacc	ttcctcggt	660
gcagaattct cagaagccac	cgctgaactg	accgtctcat	tcacaaacaa	agtcttcaca	720
actgagactt ctaggagtt	caccaccagt	ccaaaggagt	cagactctcc	agctggctt	780
gcccccaagt actacaccaa	ggcaacactg	gtccggatat	gcctcgcccc	tgtgatccta	840
ataatcctgg cgggtttct	ggcagaggac	ttgcacagcc	ggagaaagcg	cctgcggcac	900
aggggcaggg ctgtgcagag	gccgcttccg	cccctgcgc	ccctcccgca	gaccggaaa	960
tcacacgggg gtcaggatgg	aggccgacag	gatgttcaca	gccgcgggtt	atgttca	1017

<210> 34

<211> 339

<212> PRT

<213> Homo sapiens

<400> 34

Met Ser Pro Ser Pro Thr Ala Leu Phe Cys Leu Gly					
1	5	10	15		
Arg Val Pro Ala Gln Ser Gly Pro Leu Pro Lys Pro Ser					
20	25	30			
Leu Pro Ser Ser Leu Val Pro Leu Glu Lys Pro Val Thr					
35	40	45			
Gln Gly Pro Pro Gly Val Asp Leu Tyr Arg Leu Glu Lys					
50	55	60			
Ser Arg Tyr Gln Asp Gln Ala Val Leu Phe Ile Pro Ala					
65	70	75	80		
Ser Leu Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly					
85	90	95			
Ser Leu Pro Ser Asp Gln Leu Glu Leu Val Ala Thr Gly					
100	105	110			
Lys Pro Ser Leu Ser Ala Gln Pro Gly Pro Ala Val Ser					
115	120	125			
Asp Val Thr Leu Gln Cys Gln Thr Arg Tyr Gly Phe Asp					
130	135	140			
Leu Tyr Lys Glu Gly Asp Pro Ala Pro Tyr Lys Asn Pro					
145	150	155	160		
Tyr Arg Ala Ser Phe Pro Ile Ile Thr Val Thr Ala Ala					
165	170	175			
Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Arg Asp Pro Tyr					
180	185	190			
Ala Pro Ser Asp Pro Leu Glu Leu Val Val Thr Gly Thr					
195	200	205			
Pro Ser Arg Leu Pro Thr Glu Pro Pro Ser Ser Val Ala					
210	215	220			

Glu Ala Thr Ala Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr
 225 230 235 240
 Thr Glu Thr Ser Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser
 245 250 255
 Pro Ala Gly Pro Ala Arg Gln Tyr Tyr Thr Lys Gly Asn Leu Val Arg
 260 265 270
 Ile Cys Leu Gly Ala Val Ile Leu Ile Leu Ala Gly Phe Leu Ala
 275 280 285
 Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala
 290 295 300
 Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys
 305 310 315 320
 Ser His Gly Gly Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly
 325 330 335
 Leu Cys Ser

<210> 35
 <211> 1017
 <212> DNA
 <213> Homo sapiens

<400> 35
 atgtctccat ccccgaccgc cctcttctgt cttgggctgt gtctggggcg tggccagcg 60
 cagagtggac cgctccccaa gccctccctc caggctctgc ccagctccct ggtgccctcg 120
 gagaagccag tgaccctccg gtgccaggga cctccggcg tggacactgtt ccgcctggag 180
 aagctgagtt ccagcaggta ccaggatcat gtagtcctct tcatacccggc catgaagaga 240
 agtctggctg gacgctaccg ctgctctac cagaacggaa gcctctggtc cctgcccagc 300
 gaccagctgg agctcggtc cacggagtt ttggccaaac cctcgctctc agcccagccc 360
 ggcccgccgg tggcgtcagg aggggacgta accctacagt gtcagactcg gtatggcttt 420
 gaccaatttg ctctgtacaa ggaaggggac cctgcgcctt acaagaatcc cgagagatgg 480
 taccgggcta gtttcccat catcacggtg accggccccc acagcggAAC ctaccgatgc 540
 tacagcttcc caagcaggga cccataacctg tggcggccc ccagcggaccc cctggagctt 600
 gtggtcacag gaacctctgt gaccccccAGC cggttaccaa cagaaccacc ttcctcggtt 660
 gcagaattct cagaagccac cgctgaactg accgtctcat tcacaaccaa agtcttcaca 720
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 gccccggcactt actacaccaa gggcaacctg gtccggatat gcctcggggc tggatctt 840
 ataatccctgg cggggtttct ggcagaggac tggcacagcc ggaggaagcg cctgcggcac 900
 aggggcaggg ctgtgcagag gccgctccg cccctgcccgc ccctcccgca gacccggaaa 960
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<210> 36
 <211> 339
 <212> PRT
 <213> Homo sapiens

<400> 36
 Met Ser Pro Ser Pro Thr Ala Leu Phe Cys Leu Gly Leu Cys Leu Gly
 1 5 10 15
 Arg Val Pro Ala Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala
 20 25 30
 Leu Pro Ser Ser Leu Val Pro Leu Glu Lys Pro Val Thr Leu Arg Cys
 35 40 45
 Gln Gly Pro Pro Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser
 50 55 60
 Ser Arg Tyr Gln Asp Gln Val Val Leu Phe Ile Pro Ala Met Lys Arg
 65 70 75 80

Ser Leu Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp
 85 90 95
 Ser Leu Pro Ser Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala
 100 105 110
 Lys Pro Ser Leu Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly
 115 120 125
 Asp Val Thr Leu Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala
 130 135 140
 Leu Tyr Lys Glu Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp
 145 150 155 160
 Tyr Arg Ala Ser Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly
 165 170 175
 Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser
 180 185 190
 Ala Pro Ser Asp Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr
 195 200 205
 Pro Ser Arg Leu Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser
 210 215 220
 Glu Ala Thr Ala Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr
 225 230 235 240
 Thr Glu Thr Ser Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser
 245 250 255
 Pro Ala Gly Pro Ala Arg Gln Tyr Tyr Lys Gly Asn Leu Val Arg
 260 265 270
 Ile Cys Leu Gly Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala
 275 280 285
 Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala
 290 295 300
 Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys
 305 310 315 320
 Ser His Gly Gly Gln Asp Gly Arg Gln Asp Val His Ser Arg Gly
 325 330 335
 Leu Cys Ser

<210> 37
 <211> 1017
 <212> DNA
 <213> Homo sapiens

<400> 37

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caagttggac	cgctcccaa	gccctccctc	caggctctgc	ccagtcctct	ggtgcccctg	120
gagaagccag	tgaccctccg	gtgccaggga	cctccgggcg	tggacctgta	ccgcctggag	180
aagctgagtt	ccagcaggta	ccaggatcag	gcagtcctct	tcatcccgcc	catgaagaga	240
agtctggctg	gacgctaccg	ctgctcctac	cagaacggaa	gcctctggc	cctgcccagc	300
gaccagctgg	agctcggtgc	cacggagtt	tttgc当地	cctcgctctc	agcccagccc	360
ggcccccgg	tgtcggtcagg	aggggacgta	accctacagt	gtcagactcg	gtatggctt	420
gaccaatttg	ctctgtacaa	ggaaggggac	cctgc当地	acaagaatcc	cgagagatgg	480
taccgggcta	gttccccat	catcacggcg	accgc当地	acagc当地	ctaccgatgc	540
tacagcttct	ccagcaggga	ccc当地	tggc当地	ccagc当地	cctggagctt	600
gtgggtcaca	gAACCTCTGT	gacccc当地	cggtt当地	cagaaccacc	ttc当地	660
gcagaattct	cagaagccac	cgctgaaactg	accgtctcat	tc当地	acttccaca	720
actgagactt	ctaggagtt	caccaccagg	c当地	agactctcc	agctggctt	780
gccccccact	actacaccaa	gggcaacctg	gtccggat	gc当地	tgtgatctt	840
ataatccctgg	cgggtttct	ggcagaggac	tggcacagcc	ggaggaagcg	c当地	900
aggggcaggg	ctgtgcagag	gccgcttccg	ccctgccc当地	gaccggaaa	gaccggc当地	960
tcacacgggg	gtcaggatgg	aggccgacag	gatgttaca	gccgccc当地	atgttca	1017

<210> 38
<211> 339
<212> PRT
<213> Homo sapiens

<400> 38

Met	Ser	Pro	Ser	Pro	Thr	Ala	Leu	Phe	Cys	Leu	Gly	Leu	Cys	Leu	Gly
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Arg	Val	Pro	Ala	Gln	Ser	Gly	Pro	Leu	Pro	Lys	Pro	Ser	Leu	Gln	Ala
	20							25							30
Leu	Pro	Ser	Ser	Leu	Val	Pro	Leu	Glu	Lys	Pro	Val	Thr	Leu	Arg	Cys
	35							40				45			
Gln	Gly	Pro	Pro	Gly	Val	Asp	Leu	Tyr	Arg	Leu	Glu	Lys	Leu	Ser	Ser
	50					55				60					
Ser	Arg	Tyr	Gln	Asp	Gln	Ala	Val	Leu	Phe	Ile	Pro	Ala	Met	Lys	Arg
	65						70			75					80
Ser	Leu	Ala	Gly	Arg	Tyr	Arg	Cys	Ser	Tyr	Gln	Asn	Gly	Ser	Leu	Trp
		85						90							95
Ser	Leu	Pro	Ser	Asp	Gln	Leu	Glu	Leu	Val	Ala	Thr	Gly	Val	Phe	Ala
		100					105					110			
Lys	Pro	Ser	Leu	Ser	Ala	Gln	Pro	Gly	Pro	Ala	Val	Ser	Ser	Gly	Gly
		115					120					125			
Asp	Val	Thr	Leu	Gln	Cys	Gln	Thr	Arg	Tyr	Gly	Phe	Asp	Gln	Phe	Ala
	130						135				140				
Leu	Tyr	Lys	Glu	Gly	Asp	Pro	Ala	Pro	Tyr	Lys	Asn	Pro	Glu	Arg	Trp
	145					150				155					160
Tyr	Arg	Ala	Ser	Phe	Pro	Ile	Ile	Thr	Ala	Thr	Ala	Ala	His	Ser	Gly
		165						170							175
Thr	Tyr	Arg	Cys	Tyr	Ser	Phe	Ser	Ser	Arg	Asp	Pro	Tyr	Leu	Trp	Ser
		180					185					190			
Ala	Pro	Ser	Asp	Pro	Leu	Glu	Leu	Val	Val	Thr	Gly	Thr	Ser	Val	Thr
		195					200					205			
Pro	Ser	Arg	Leu	Pro	Thr	Glu	Pro	Pro	Ser	Ser	Val	Ala	Glu	Phe	Ser
		210					215				220				
Glu	Ala	Thr	Ala	Glu	Leu	Thr	Val	Ser	Phe	Thr	Asn	Lys	Val	Phe	Thr
	225					230				235					240
Thr	Glu	Thr	Ser	Arg	Ser	Ile	Thr	Thr	Ser	Pro	Lys	Glu	Ser	Asp	Ser
		245						250				255			
Pro	Ala	Gly	Pro	Ala	Arg	Gln	Tyr	Tyr	Thr	Lys	Gly	Asn	Leu	Val	Arg
		260					265				270				
Ile	Cys	Leu	Gly	Ala	Val	Ile	Leu	Ile	Ile	Leu	Ala	Gly	Phe	Leu	Ala
		275					280				285				
Glu	Asp	Trp	His	Ser	Arg	Arg	Lys	Arg	Leu	Arg	His	Arg	Gly	Arg	Ala
	290					295				300					
Val	Gln	Arg	Pro	Leu	Pro	Pro	Leu	Pro	Pro	Leu	Pro	Gln	Thr	Arg	Lys
	305					310				315					320
Ser	His	Gly	Gly	Gln	Asp	Gly	Gly	Arg	Gln	Asp	Val	His	Ser	Arg	Gly
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Leu	Cys	Ser													

<210> 39
<211> 1017
<212> DNA
<213> Homo sapiens

<400> 39
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gagaagccag	tgaccctccg	gtgccaggga	cctccggcg	tggacctgta	ccgeectggag	180
aagctgagtt	ccagcaggta	ccaggatcg	gcagtcctct	tcatcccgcc	catgaagaga	240
agtctggctg	gacgctaccg	ctgctctac	cagaacggaa	gcctctggtc	cctgcccagc	300
gaccagctgg	agctcggtgc	cacggaggtt	tttgc当地aa	cctcgctctc	agcccagccc	360
ggcccggcgg	tgtcgtagg	aggggacgta	accctacagt	gtcagactcg	gtatggctt	420
gaccaatttg	ctctgtacaa	ggaaggggac	cctgc当地cc	acaagaatcc	cgagagatgg	480
taccgggcta	gttccccat	catcacggtg	accgccc当地	acagc当地ac	ctaccgatgc	540
tacagcttct	ccagcaggga	ccc当地ac	tggtc当地cc	ccagc当地ac	cctggagctt	600
gtggtc当地ag	gaacctctgt	gacccc当地	cggta	cagaaccacc	ttc当地cgta	660
gcagaattct	cagaagccac	cgctgaactg	accgtctcat	tcaca当地acaa	agtctt当地ca	720
actgagactt	ctaggagtt	caccacc	ccaaaggagt	cagactctcc	agctggctt	780
gccc当地cag	actacaccaa	gggcaac	gtccggat	gcctc当地ggc	tgtgatccta	840
ataatcctgg	cggggtt	ggc当地aggac	tggcacagcc	ggaggaagcg	cctgc当地gc	900
aggggc当地gg	ctgtgc当地ag	gccgcttccg	ccc当地ccgc	ccctccc当地a	gacc当地ggaaa	960
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 <212> PRT
 <213> Homo sapiens

<400> 40					
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				Phe	Cys
				Leu	Gly
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					15
Arg	Val	Pro	Ala	Gln	Ser
					Gly
				Pro	Leu
				Leu	Pro
				Lys	Ser
					Leu
					Gln
					Ala
				20	
					25
					30
Leu	Pro	Ser	Ser	Leu	Val
				Pro	Leu
				Glu	Lys
				Pro	Val
				Thr	Leu
				Arg	Arg
				Cys	
					45
Gln	Gly	Pro	Pro	Gly	Val
				Asp	Leu
				Tyr	Arg
				Leu	Glu
				Lys	Lys
				Leu	Ser
				Ser	Ser
					50
					55
					60
Ser	Arg	Tyr	Gln	Asp	Gln
				Ala	Val
				Leu	Phe
				Ile	Ile
				Pro	Ala
				Met	Lys
				Arg	Arg
					65
					70
					75
					80
Ser	Leu	Ala	Gly	Arg	Tyr
				Arg	Arg
				Cys	Ser
				Tyr	Gln
				Gln	Asn
				Gly	Ser
					Leu
					Trp
				85	
					90
					95
Ser	Leu	Pro	Ser	Asp	Gln
				Leu	Glu
				Leu	Val
				Ala	Thr
				Gly	Val
					100
					105
					110
Lys	Pro	Ser	Leu	Ser	Ala
				Gln	Pro
				Ala	Val
				Ser	Ser
				Gly	Gly
					115
					120
					125
Asp	Val	Thr	Leu	Gln	Cys
				Gln	Thr
				Arg	Tyr
				Tyr	Gly
				Phe	Asp
				Gln	Phe
					Ala
				130	
					135
					140
Leu	Tyr	Lys	Glu	Gly	Asp
				Pro	Pro
				Ala	Tyr
				Pro	Lys
					145
					150
					155
					160
Tyr	Arg	Ala	Ser	Phe	Pro
				Ile	Ile
				Thr	Val
				Thr	Thr
				Ala	Ala
				His	Ser
				Gly	
				165	
					170
					175
Thr	Tyr	Arg	Cys	Tyr	Ser
				Phe	Asp
				Ser	Pro
				Arg	Tyr
					180
					185
					190
Val	Pro	Ser	Asp	Pro	Leu
				Glu	Leu
				Leu	Val
				Val	Val
				Thr	Thr
				Gly	Ser
					195
					200
					205
Pro	Ser	Arg	Leu	Pro	Thr
				Glu	Pro
				Pro	Ser
				Ser	Ser
				Val	Ala
				Glu	Phe
					210
					215
					220
Glu	Ala	Thr	Ala	Glu	Leu
				Leu	Thr
				Val	Ser
				Phe	Thr
					225
					230
					235
					240
Thr	Glu	Thr	Ser	Arg	Ser
				Ile	Thr
				Thr	Ser
				Pro	lys
				Glu	Ser
					245
					250
					255
Pro	Ala	Gly	Pro	Ala	Arg
				Gln	Tyr
				Tyr	Thr
				Lys	Gly
					260
					265
					270

Ile Cys Leu Gly Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala
 275 280 285
 Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala
 290 295 300
 Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys
 305 310 315 320
 Ser His Gly Gly Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly
 325 330 335
 Leu Cys Ser

<210> 41
 <211> 939
 <212> DNA
 <213> Mus musculus

<400> 41
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 ctgggtcaagt cagttattct gaggtgccag ggacctccag atgtggattt atatgcctg 180
 gagaaaactga aaccggagaa gtatgaagat caagacttcc tcttcattcc aaccatggaa 240
 agaagtaatg ttggacggta tcgatgctct tatcagaatg ggagtcaactg gtctctccca 300
 agtgaccagc ttgagctaattg tgctacaggt gtgtatgcta aaccctcaact ctcagctcat 360
 cccagctcag cagtcctca aggcaaggat gtgactctga agtgcagag cccatacagt 420
 tttgatgaat tcgttctata caaagaaggg gatactgggc cttataagag acctgagaaa 480
 tggtaccggg ccaatttccc catcatcaca gtgactgctg ctcacagtgg gacgtaccgg 540
 tggtagct tctccagctc atctccatac ctgtggtcag ccccgagtga ccctctagtg 600
 cttgtggta ctggactctc tgccactccc agccaggtac ccacggagaatc atcatttcct 660
 gtgacagaat cctccaggag accttccatc ttacccacaa acaaaatatc tacaactgaa 720
 aaggctatga atatcactgc ctctccagag gggctgagcc ctccaaattgg ttttgctcat 780
 cagcactatg ccaagggaa tctggccgg atatgccttg gtgcccacgat tataataatt 840
 ttgttgggc ttctagcaga ggattggcac agtcggaaga aatgcctgca acacaggatg 900
 agagcttgc aaaggccact accaccctc ccactggcc 939

<210> 42
 <211> 313
 <212> PRT
 <213> Mus musculus

<400> 42
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 35 40 45
 Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys
 50 55 60
 Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu
 65 70 75 80
 Arg Ser Asn Val Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His
 85 90 95
 Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr
 100 105 110
 Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly
 115 120 125
 Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe
 130 135 140

Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys
 145 150 155 160
 Trp Tyr Arg Ala Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser
 165 170 175
 Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Pro Tyr Leu Trp
 180 185 190
 Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala
 195 200 205
 Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser
 210 215 220
 Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu
 225 230 235 240
 Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile
 245 250 255
 Gly Phe Ala His Gln His Tyr Ala Lys Gly Asn Leu Val Arg Ile Cys
 260 265 270
 Leu Gly Ala Thr Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp
 275 280 285
 Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln
 290 295 300
 Arg Pro Leu Pro Pro Leu Pro Leu Ala
 305 310

<210> 43
 <211> 939
 <212> DNA
 <213> Mus musculus

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 ctgggtcagt cagttattct gaggtgccag ggacctccag atgtggattt atatcgctg 180
 gagaaaactga aaccggagaa gtatgaagat caagactttc tcttcattcc aaccatggaa 240
 agaagtaatg ctggacggta tcgatgctct tatcagaatg ggagtcaactg gtctctccca 300
 agtgaccagc ttgagcta at tgctacaggt gtgtatgcta aaccctcaact ctcagctcat 360
 cccagctcag cagtccctca aggcaaggat gtgactctga agtgcagag cccatacagt 420
 tttgatgaat tcgttctata caaagaaggg gatactggc cttataagag acctgagaaa 480
 tggtaccggg tcaatttccc catcatcaca gtgactgctg ctcacagtgg gacgtaccgg 540
 tggtagct tctccagctc atctccatac ctgtggta ccccgagtga ccctctagtg 600
 cttgtggta ctgactctc tgccactccc agccaggtac ccacggaaga atcatttcct 660
 gtgacagaat cctccaggag accttccatc ttacccacaa acaaataatc tacaactgaa 720
 aaggctatga atatcactgc ctctccagag gggctgagcc ctccaattgg ttttgctcat 780
 cagcactatg ccaagggaa tctggtccgg atatgccttg gtgccacgat tataataatt 840
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 agagcttgc aaaggccact accaccctc ccactggcc 939

<210> 44
 <211> 313
 <212> PRT
 <213> Mus musculus

<400> 44
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 Ala Gln Pro Ser Ser Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg
 35 40 45

Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys
 50 55 60
 Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu
 65 70 75 80
 Arg Ser Asn Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His
 85 90 95
 Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr
 100 105 110
 Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly
 115 120 125
 Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe
 130 135 140
 Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys
 145 150 155 160
 Trp Tyr Arg Val Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser
 165 170 175
 Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Pro Tyr Leu Trp
 180 185 190
 Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala
 195 200 205
 Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser
 210 215 220
 Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu
 225 230 235 240
 Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile
 245 250 255
 Gly Phe Ala His Gln His Tyr Ala Lys Gly Asn Leu Val Arg Ile Cys
 260 265 270
 Leu Gly Ala Thr Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp
 275 280 285
 Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln
 290 295 300
 Arg Pro Leu Pro Pro Leu Pro Leu Ala
 305 310

<210> 45
 <211> 939
 <212> DNA
 <213> Mus musculus

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 ctgggtcagt cagttattct gaggtgccag ggacctccag atgtggattt atatgcctg 180
 gagaaaactga aaccggagaa gtatgaagat caagactttc tcttcattcc aaccatggaa 240
 agaagtaatg ctggacggta tcgatgctct tatcagaatg ggagtcaactg gtctctccca 300
 agtgaccagc ttgagcta at tgctacaggt gtgtatgcta aaccctcaact ctcagctcat 360
 cccagcttag cagccccctca aggcaggat gtgactctga agtgcagag cccatacagt 420
 tttgatgaat tcgttctata caaagaaggg gatactgggc cttataagag acctgagaaa 480
 tggtacccggg ccaatttccc catcatcaca gtgactgctg ctcacagtgg gacgtaccgg 540
 tggtagct tctccagctc atctccatac ctgtggtag ccccgagtga ccctcttagtg 600
 cttgtggta ctggactctc tgccactccc agccaggatcc acacggaa atcatttcct 660
 gtgacagaat cctccaggag accttccate ttacccacaa acaaataatc tacaactgaa 720
 aaggctatga atatcactgc ctctccagag gggctgagcc ctccaattgg ttttgctcat 780
 cagcactatg ccaaggggaa tctggtccgg atatgcctt ggtgcacgat tataataatt 840
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 agagcttgc aaaggccact accacccttc ccactggcc 939

<210> 46
<211> 313
<212> PRT
<213> Mus musculus

<400> 46

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Gln	Val	Ile	Gln	Thr	Gln	Ser	Gly	Pro	Leu	Pro	Lys	Pro	Ser	Leu	Gln
							20			25					30
Ala	Gln	Pro	Ser	Ser	Leu	Val	Pro	Leu	Gly	Gln	Ser	Val	Ile	Leu	Arg
							35			40					45
Cys	Gln	Gly	Pro	Pro	Asp	Val	Asp	Leu	Tyr	Arg	Leu	Glu	Lys	Leu	Lys
							50			55					60
Pro	Glu	Lys	Tyr	Glu	Asp	Gln	Asp	Phe	Leu	Phe	Ile	Pro	Thr	Met	Glu
							65			70					80
Arg	Ser	Asn	Ala	Gly	Arg	Tyr	Arg	Cys	Ser	Tyr	Gln	Asn	Gly	Ser	His
							85			90					95
Trp	Ser	Leu	Pro	Ser	Asp	Gln	Leu	Glu	Leu	Ile	Ala	Thr	Gly	Val	Tyr
							100			105					110
Ala	Lys	Pro	Ser	Leu	Ser	Ala	His	Pro	Ser	Ser	Ala	Ala	Pro	Gln	Gly
							115			120					125
Arg	Asp	Val	Thr	Leu	Lys	Cys	Gln	Ser	Pro	Tyr	Ser	Phe	Asp	Glu	Phe
							130			135					140
Val	Leu	Tyr	Lys	Glu	Gly	Asp	Thr	Gly	Pro	Tyr	Lys	Arg	Pro	Glu	Lys
							145			150					160
Trp	Tyr	Arg	Ala	Asn	Phe	Pro	Ile	Ile	Thr	Val	Thr	Ala	Ala	His	Ser
							165			170					175
Gly	Thr	Tyr	Arg	Cys	Tyr	Ser	Phe	Ser	Ser	Ser	Pro	Tyr	Leu	Trp	
							180			185					190
Ser	Ala	Pro	Ser	Asp	Pro	Leu	Val	Leu	Val	Val	Thr	Gly	Leu	Ser	Ala
							195			200					205
Thr	Pro	Ser	Gln	Val	Pro	Thr	Glu	Glu	Ser	Phe	Pro	Val	Thr	Glu	Ser
							210			215					220
Ser	Arg	Arg	Pro	Ser	Ile	Leu	Pro	Thr	Asn	Lys	Ile	Ser	Thr	Thr	Glu
							225			230					240
Lys	Pro	Met	Asn	Ile	Thr	Ala	Ser	Pro	Glu	Gly	Leu	Ser	Pro	Pro	Ile
							245			250					255
Gly	Phe	Ala	His	His	Tyr	Ala	Lys	Gly	Asn	Leu	Val	Arg	Ile	Cys	
							260			265					270
Leu	Gly	Ala	Thr	Ile	Ile	Ile	Ile	Leu	Leu	Gly	Leu	Leu	Ala	Glu	Asp
							275			280					285
Trp	His	Ser	Arg	Lys	Lys	Cys	Leu	Gln	His	Arg	Met	Arg	Ala	Leu	Gln
							290			295					300
Arg	Pro	Leu	Pro	Pro	Leu	Pro	Leu	Ala							
							305			310					

<210> 47
<211> 939
<212> DNA
<213> Mus musculus

<400> 47

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ctgggt	cagt	catt	ttct	ggat	tatcg	180
gagaaactga	aaccggagaa	gtatgaagat	caagactt	tcttcat	aaccatggaa	240
agaagtaatg	ctggacggta	tcgatgtct	tatcagaatg	ggagtca	gtctctccca	300

agtgaccagc ttgagcta at	tgctacagg t	gtgtatgcta aaccctca ct	cagctcat	360
cccagctcg c	aggcaggat g	tgactctga agtgc	ccatacag	420
tttgcataat tc	aaagaagg gata	cttataagag ac	ctgagaaa	480
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tgttacagct t	tccatcatac ctgtggtc	ccccgagtga ccctctag	600	
cttgtggta ct	gactctc tgccactccc	agccaggtac ccacggaga	660	
gtgacagaat c	cctccaggag accttccat	ttacccacaa acaaataatc	720	
aaggctatga a	atatactgc ctctccagag	gggctgagcc ctccaattgg	780	
cagcaatg tca	aggggaa tctggccgg	atatgcctt gtgccacgat	840	
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<210> 48
 <211> 313
 <212> PRT
 <213> Mus musculus

<400> 48		
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Ala Gln Pro Ser Ser Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg		
35 40 45		
Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys		
50 55 60		
Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu		
65 70 75 80		
Arg Ser Asn Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His		
85 90 95		
Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr		
100 105 110		
Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly		
115 120 125		
Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe		
130 135 140		
Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys		
145 150 155 160		
Trp Tyr Arg Ala Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser		
165 170 175		
Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Pro Tyr Leu Trp		
180 185 190		
Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala		
195 200 205		
Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser		
210 215 220		
Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu		
225 230 235 240		
Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile		
245 250 255		
Gly Phe Ala His Gln His Tyr Val Lys Gly Asn Leu Val Arg Ile Cys		
260 265 270		
Leu Gly Ala Thr Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp		
275 280 285		
Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln		
290 295 300		
Arg Pro Leu Pro Pro Leu Pro Leu Ala		
305 310		

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<211> 5
<212> PRT
<213> Homo sapiens

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<210> 50
<211> 17
<212> PRT
<213> Homo sapiens

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<210> 51
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<212> PRT
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<400> 51
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<210> 52
<211> 14
<212> PRT
<213> Homo sapiens

<400> 52
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<210> 53
<211> 7
<212> PRT
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<400> 53
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<400> 54
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<210> 55
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<212> PRT
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<400> 55
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<210> 56
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<400> 56
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Gly

<210> 57
<211> 8
<212> PRT
<213> Homo sapiens

<400> 57
Asp Ile Ser Ser Ala Met Asp Val
1 5

<210> 58
<211> 13
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<400> 58
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<210> 59
<211> 7
<212> PRT
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<400> 59
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1 5

<210> 60
<211> 10
<212> PRT
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<400> 60
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<210> 61
<211> 5
<212> PRT
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<400> 61
Ser Tyr Trp Met Ser
1 5

<210> 62
<211> 17
<212> PRT
<213> Homo sapiens

<400> 62
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Gly

<210> 63
<211> 14
<212> PRT
<213> Homo sapiens

<400> 63
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1 5 10

<210> 64
<211> 13
<212> PRT
<213> Homo sapiens

<400> 64
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1 5 10

<210> 65
<211> 7
<212> PRT
<213> Homo sapiens

<400> 65
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